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Claims

[c1] 1.A device for controlling a fluid flow, the device comprising:
at least two fluid flow drivers;
a plenum disposed to receive a fluid flow from the at least two drivers, the plenum having a first cross-sectional area proximate the at least two drivers and a second cross-section area at a distance from the at least two drivers, the second cross-sectional area being an exit for the fluid flow; and
a baffle disposed within the plenum and having a first edge restrained proximate the first cross-sectional area and a second opposing edge freely disposed proximate the second cross-sectional area;
wherein the baffle has a surface area responsive to the fluid flow within the plenum to reduce a backflow if one of the at least two drivers is operational and another is non-operational.

[c2] 2.The device of Claim 1, wherein the baffle further comprises unrestrained side edges disposed between the first and second edges.

[c3] 3.The device of Claim 1, wherein the first edge of the

baffle is affixed proximate a line between two of the at least two drivers and the second opposing edge is freely disposed proximate the center of the second cross-sectional area.

[c4] 4.The device of Claim 3, wherein the first edge of the baffle is affixed proximate the center of the first cross-sectional area.

[c5] 5.The device of Claim 1, wherein the baffle is flexible.

[c6] 6.The device of Claim 5, wherein the baffle flexes in response to a pressure differential across the baffle such that the plenum shape is optimized regardless of whether one of the at least two drivers is non-operational.

[c7] 7.The device of Claim 1, wherein in response to one of the at least two drivers being operational and another being non-operational, the baffle moves to close off a part of the plenum corresponding to the non-operational driver.

[c8] 8.The device of Claim 1, wherein the at least two drivers comprises two fans, and the fluid flow comprises air.

[c9] 9.The device of Claim 8, wherein the two fans are disposed in a parallel fluid flow arrangement.

[c10] 10.The device of Claim 9, wherein the two fans are disposed in a same plane.

[c11] 11.The device of Claim 1, further comprising a tachometer for and in signal communication with each of the at least two drivers;
wherein if one of the at least two drivers is operational and another is non-operational the baffle substantially reduces the backflow toward the non-operational driver such that the associated tachometer registers a non-operational driver.

[c12] 12.The device of Claim 1, wherein the baffle is disposed in such a way as to divide the plenum in half in response to the at least two drivers and the baffle being at rest.

[c13] 13.A heat transfer apparatus, comprising:
a heat exchanger; and
a device for providing a fluid flow, the device comprising:
at least two fluid flow drivers;
a plenum disposed to receive a fluid flow from the at least two drivers, the plenum having a first cross-sectional area proximate the at least two drivers and a second cross-section area at a distance from the at least two drivers, the second cross-sectional area being an

exit for the fluid flow; and

a baffle disposed within the plenum and having a first edge restrained proximate the first cross-sectional area and a second opposing edge freely disposed proximate the second cross-sectional area;

wherein the baffle has a surface area responsive to the fluid flow within the plenum to reduce a backflow if one of the at least two drivers is operational and another is non-operational;

wherein the heat exchanger is disposed proximate the exit of the device and in fluid communication with the fluid flow from the device.

[c14] 14.The apparatus of Claim 13, wherein:

the at least two drivers comprises two fans disposed in a parallel fluid flow arrangement; and

the fluid comprises air.

[c15] 15.The apparatus of Claim 13, wherein:

the baffle is flexible;

the baffle flexes in response to a pressure differential across the baffle such that the plenum shape is optimized regardless of whether one of the at least two drivers is non-operational; and

in response to one of the at least two drivers being operational and another being non-operational, the baffle moves to close off a part of the plenum corresponding to

the non-operational driver.

[c16] 16.The apparatus of Claim 13, further comprising a tachometer for and in signal communication with each of the at least two drivers;
wherein if one of the at least two drivers is operational and another is non-operational the baffle substantially reduces the backflow toward the non-operational driver such that the associated tachometer registers a non-operational driver.

[c17] 17.A device for controlling an air flow, the device comprising:
two fans disposed in a parallel air flow arrangement;
a plenum disposed to receive an air flow from the two fans, the plenum having a first cross-sectional area proximate the two fans and a second cross-section area at a distance from the two fans, the second cross-sectional area being an exit for the air flow; and
a baffle disposed within the plenum and having a first edge restrained proximate the first cross-sectional area and a second opposing edge freely disposed proximate the second cross-sectional area;
wherein the baffle flexes in response to a pressure differential across the baffle to reduce a backflow within the plenum if one of the two fans is operational and another is non-operational.

[c18] 18.The device of Claim 17, further comprising a tachometer for and in signal communication with each of the two fans;

wherein if one of the two fans is operational and another is non-operational the baffle substantially reduces the backflow toward the non-operational fan such that the associated tachometer registers a non-operational fan.